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ABSTRACT

This guide is intended to help teachers and vocational administrators incorporate word processing into existing office occupations education programs on both the secondary and postsecondary levels. Following an introduction (section 1) covering the need for word processing instruction, the guide contains eight additional sections. Outlining updated curriculum content for high school and postsecondary office occupations education programs, sections 2 and 3 include recommended courses, course descriptions, teaching methods, instructional materials, and suggested curriculum changes. In sections 4 and 5, advice is given on choosing word processing equipment and attending word processing equipment demonstration. Section 6 presents resources, including lists of professional associations, periodicals, books and pamphlets, and curriculum resources, while section 7 covers word processing equipment, service, and suppliers. A glossary and an evaluation sheet complete the curriculum guide. (KC)

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KANSAS INFORMATION / Word Processing Curriculum Guide

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INTRODUCTION

Word processing is a new concept in office management. This concept uses modern equipment, standardized procedures, and specialized employee skills. Industry has increased production 83 percent within the last ten years while production in the office has increased only 4 percent. In looking at traditional offices, it is obvious that offices do not have a performance record equal to industry.

The cost of processing communications has skyrocketed over the past few years, pushing the price of such processing unbelievably high. Dartnell Institute reports that an average business letter in 1930 cost 27 cents; in 1977, $4.47; and today, between $5 and $10. Every item required in the production of documents--paper, typewriter ribbons, pens, pencils, office furnishings, electricity, heating, rent, salaries--has doubled or tripled in price over the last 50 years. Word processing can decrease quantity of supplies used and better utilize employee time.

The training of personnel to work in word processing centers is being handled today primarily by the employing company. Such training is extremely costly. It becomes apparent that if the companies could hire trained personnel--those who already have knowledge of word processing concepts and basic training on input devices--they would do so. Such training will ultimately have to come through the school systems.

Because of the surge of word processing equipment in business and industry, a real need for trained personnel exists. Educational institutions will be called upon to provide trained personnel. However, word processing is not for every student--only those with a background in word processing concepts, the necessary keyboarding skills, good grammar and punctuation skills, as well as transcription skills should pursue this career.

The Kansas Word Processing Curriculum Guide was compiled to assist business teachers in incorporating word processing into their existing programs.

It is extremely important to keep in mind that word processing is not just equipment--it also includes standardized procedures and specialized employee responsibilities.

HIGH SCHOOL

With the help of Dr. Marcia Anderson, Coordinator of the Business Education Programs in the Department of Vocational Education at Southern Illinois University, a Kansas Curriculum Committee developed the following articulated and sequenced secondary curriculum which would place emphasis in subject areas which are a part of the changing office.

HIGH SCHOOL CURRICULUM
(Comprehensive)

TRADITIONAL	UP-DATED
Ninth Grade	
General Business	Concepts of Office Organizations
Typewriting.	Keyboarding/Proofreading
	Enrichment Courses
	Business English (Verbal and Written Communications)
Tenth Grade	
General Business	Concepts of Office Organizations
Typewriting	Typewriting
Shorthand.	Transcription Skill as a pre-requisite to Shorthand (11th grade)
	Enrichment Courses
	Computer Literacy
	Business Math
Eleventh Grade	
Jr. Office Education . . .	Office Procedures
Shorthand.	Shorthand Symbolism
Intro. to Data Processing.	Computer Literacy

Office Machines.	Keyboarding/Proofreading
	Enrichment Courses
	Business Law
	Accounting
Twelfth Grade	
Cooperative (OJT).	Cooperative OJT/Specialized Office Procedures
Procedures for Non-Coop. .	Specialized Equipment Skills

HIGH SCHOOL CURRICULUM
(Basic)

Some high schools in Kansas may be offering shorthand, typewriting, and office procedures. The new curriculum content would be merged into these courses in the following manner:

Basic Courses	New Curriculum
Shorthand	Shorthand Symbolism including Business English
Typewriting	Keyboarding/Proofreading
Office Procedures	Transcription Skills Concepts of Office Organization Computer Literacy Office Procedures

Employers indicate they would prefer to have schools correct the weaknesses in spelling, punctuation, and grammar instead of offering sophisticated equipment courses. Therefore, if one new course is added to the curriculum, the recommendation is for Business English. Even though schools cannot afford state-of-the-art equipment, concepts can be introduced in office procedures. Transcription Skills should supplement the curriculum, as well as reinforce Business English.

COURSE DESCRIPTIONS AND TEACHING METHODS

High School Level

The teaching methods are recommendations published in Word Processing & Information Systems by Shirley Waterhouse and Dr. Marcia A. Anderson in the WP Classroom column.

Ninth Grade

Concepts of Office Organizations: Emphasis on the changing structure of the office. Offered on the 9th or 10th grade level.

A significant trend in businesses is the merging of word processing, reproduction, distribution, and records management, which leads to a systems approach to administrative support. The fact that these systems are merging will necessitate a change in office procedures. Students will need to understand new organizational structures in an integrated office and learn how to work as a part of a team.

By virtue of adding automated equipment to the business office, employers are concerned about productivity and evaluation forms to measure office worker efficiency. This accountability will undoubtedly create pressure and stress on employees. In order to help alleviate this stress, students should be familiarized with these new procedures.

Definitive career paths and opportunities are becoming available in the changing office. Students need to be able to read organizational charts and become aware of career paths, job titles, and job descriptions.

If predictions from the International Data Corporation are accurate, word processing keyboards will expand fivefold by 1985. This will exert pressure on teachers not only to develop curriculums for the changing office, but also to help students learn to accept change.

Keyboarding/Proofreading: Emphasis on typewriting skill, proofreading, and ten key pad. Continuation in the second semester to include business forms, manuscripts, etc. Offered on the 9th and/or 10th grade level.

Typewriting is the traditional ninth or tenth grade offering for a student planning on a vocation in office careers. Statistics seem to be indicating, however, that knowledge of keyboarding will be a necessity for most Americans, both at home and at work. U. S. News and World Report in the December 1, 1980, issue predicts that home computers will be

in 80 percent of the U. S. homes by 1990--less than a decade from now. This prediction has vast implications for business education. Professionals, paraprofessionals, and nonprofessionals may be requiring input and receiving output through computer terminals.

Keyboarding would include proofreading and use of the ten key pad, which is an important aspect of word processing and computer information systems. For some students, keyboarding may mean learning the basics and leaving the class after just a semester.

Typewriting, of course, is still a necessity for students with secretarial/clerical career objectives. To meet the demands of word processing, it is recommended that typewriting emphasize formatting and document requirements; longer typing jobs with the use of a team approach on some of these jobs; simple and complex statistical typing; and proofreading of typewritten documents from handwritten copy of varying styles. Teaching correction techniques should decrease emphasis on using an eraser and increase emphasis on modern correction devices.

Suggestions for proofreading content: Emphasis should be on refining proofreading and editing skills. Students must attain the ability to locate errors in spelling, construction, and context. Proofreading is difficult to teach. Following are some suggestions:

1) Review, with exercises, basic written communication skills.

2) Stress most frequent proofreading mistakes, i.e., transposition, similar words, numeric figures, and symbols.

3) Proof one line at a time. Use proofreader's marks to correct errors; do not allow students to merely circle errors.

4) Make students responsible for their own proofreading errors and set high standards for proofreading competency.

5) Before typing draft copy, read one time for content, a second time for grammar, spelling, punctuation, capitalization, and word usage, and a third time checking names and numbers.

6) Have a daily exercise to force students to analyze material. Example: "By that time, we will have give full consideration to all of these matters, and we will sent the sample your requested. It will go out on the mail today. I should be received by your company tomorrow."

7. Teachers should not do all proofreading and evaluating (grading) of typed assignments without first having students exchange papers and proofread each other's paper.

Business English: Content includes: effective writing techniques; letter composition; cost of origination, producing and transmitting words; designing form letters and form paragraphs; listening effectively; grammar, spelling, and punctuation. Offered on the 9th and/or 10th grade level. Teach concurrently with keyboarding/proofreading for 1 year.

Kansas businesses are requesting that graduates be able to formulate ideas, put ideas into writing, and verbalize thoughts as well as have strong English grammar, spelling, punctuation, vocabulary, and proofreading skills. This request is true not only in Kansas but also is reported in literature and in many research studies across the nation. For years there has been controversy over whether Business English should be taught in the English Department or the Business Department. This may account for the fact that only 12 schools in Kansas offer Business English. Typically, communication units are integrated into the existing business curriculums.

The curriculum committee is recommending a full-year course emphasizing basic English skills, oral communications, and written communications to be offered in the Business Department as a basis for all business courses. The English Department should also be made aware of the weaknesses that business teachers are discovering in graduates in order to better prepare students for employment.

Suggestions for teaching listening, reading, and writing:

LISTENING requires undivided concentration and excellent retention capabilities. Develop activities that require concentration on the content of oral instructions. Increase the complexity of the instructions as well as the student's attention span and retention level. Have the students summarize directions in their own words.

READING. Have books on business subjects available and provide outside reading assignments. Have students orally summarize their readings. Develop vocabulary lists from frequently used terms found in readings, relating to office and word processing. Integrate the terms and develop a working knowledge of them.

WRITING should emphasize spelling, grammar, and punctuation. Provide daily exercises in these areas and hold students responsible for all three areas in every written assignment.

Computer Literacy: Emphasis on the practical uses of the computer and software. The course may cover programming in BASIC, problem solving, applications, and the impact of computers on society. Offered on the 10th- or 11th-grade level.

Computer literacy is the understanding of the application of computers to problems and situations in schools, home, and work. The student would learn when to use a computer and understand the applications and limitations. This course would take the place of Introduction to Data Processing in the business curriculum, utilizing the relatively inexpensive microcomputer if available.

Mildred Johnson recommends in the December, 1980, issue of Business Education Forum, that three-fourths of the course content be on nonprogramming materials and one-fourth on computer programming--only if a computer is available. For further teaching suggestions, read Johnson's article entitled "Computer Literacy: What Is It?", pages 18-22.

Tenth Grade

Transcription Skill: Emphasis on operating the transcribing machine, listening and typing, reviewing format of letters and reports, transcribing on forms, transcribing what was meant rather than what was said. Offered on the 10th- or 11th-grade level as a prerequisite to shorthand.

In February, 1981, a study by Word Processing and Information Systems indicated that 25 percent of input to word processing systems is dictated. The reason for the use of dictation equipment is the productivity improvement. According to the Dartnell Institute of Business Research (Chicago) in 1980, the average cost of a machine dictated and transcribed letter was $4.53, as compared to a cost of $6.83 for an shorthand-dictated letter.

Students should be familiar with how to operate dictation equipment and how to effectively dictate. The usual rotation schedule in the office practice class of a few hours of practice is insufficient to train students to achieve entry-level skill. Emphasis would be on spelling, proofreading, punctuation, and grammar. Students should also learn proper dictation techniques in order to increase their ability to organize ideas and establish procedures. The reason transcription is offered as a prerequisite to shorthand is to reinforce what was learned in Business English and Keyboarding/Proofreading. In addition, if a student enrolls in shorthand but discovers the lack of aptitude, the student is still leaving school with a salable transcription skill.

Suggestions for teaching: This skill should be taught after students have mastered written communication skills, word division, and keyboarding/proofreading.

Typing from the spoken word requires a progressive approach from simple to complex. Students must learn what an "earful" of words and phrases mean and how to increase that to become rapid and efficient. Students must spell correctly from context and be able to insert proper punctuation. Begin with rough draft, editing, and final copy and move toward a first-time-final copy. Verify work against perfect transcript copies. Timings should be given. Initially, transcription speed will be about half the student's normal typing speed. They should be able to increase to approximately two-thirds their typing speed.

Eleventh Grade

Office Procedures: Covers job responsibilities and duties performed by word processing correspondence secretaries and administrative secretaries (see specific duties below). Offered on the 11th grade level.

Emphasis would be on indicating the duties which are most frequently performed by secretaries. Statistics by Delta Pi Epsilon (1981) indicate that 95 percent of the secretaries surveyed used a copying machine; 85 percent, an electric typewriter; and 75 percent, a calculator.

According to Delta Pi Epsilon, the following job responsibilities and duties are performed most often by word processing operators (correspondence secretaries): typing letters, memos, and reports ten or fewer pages in length; typing original one-time correspondence; typing from handwritten input; typing documents requiring light revisions; proofreading typed documents; organizing and maintaining a filing system for stored or recorded data; logging work in and out; taking general care of office equipment; operating dictation equipment; using the dictionary and word processing manuals; and following the directions of supervisors.

The following job responsibilities and duties are performed most often by administrative support secretaries: composing written communications from oral directions; answering routine correspondence without directions; composing from employer's longhand notes; typing tables, speeches, reports, and news releases; answering the telephone; organizing flow of incoming mail; meeting callers; making appointments for employer; scheduling conferences and meetings; maintaining general and desk reference files; making recommendations concerning office systems, procedures, and supplies; and using a copying machine.

Records management and reprographics techniques should be introduced. In addition, students should be familiarized with word processing concepts, terminology, and equipment.

Teaching suggestions:

Office History: development and evolution of office and equipment.

Terminology: commonly used terms to describe office activities.

Procedures: discussion of the need for procedure manuals, office workflow, and standardization.

Work Components: discuss individual components and their relationship to all other components in order to provide an understanding and overview of office organization.

Office Structure: provide a framework for defining specific purposes and functions of a variety of offices. Discuss centralized and decentralized structures.

Careers: what is available and the necessary training and work experience needed.

The following activities are also beneficial to a procedures course: visits to centers, guest lecturers, and student conferences.

Shorthand: Emphasis on learning the theory, principles, and developing the reading, recording, and transcribing skills. Offered on the 11th grade level with machine transcription as a pre-requisite.

Shorthand is included in the curriculum because research has shown that shorthand is still a viable skill in today's office. The Dartnell Corporation reported that 39 percent of employers required shorthand for entry-level jobs with secretarial responsibilities; 65 percent, for middle-level secretaries; and 74 percent, for top-level secretaries. Obviously, shorthand will not be used in a word processing center, but a student who has both shorthand and transcription skills is more employable.

Twelfth Grade

Specialized Office Equipment Skills: This is for students with a background, desire, and interest to learn word processing. Offered on the 12th grade level.

Training on specialized equipment is desirable but financially impossible in some situations. Realistic

simulations can be established by using electric typewriters and dictation equipment.

Both simulated and actual working word processing centers should be production oriented and closely supervised. The student should be learning business applications and the merging of applications with other related areas in office work.

Suggestions for teaching: Students should receive instruction on at least one type of text-editing machine--performing machine transcription, applying correct punctuation and grammar to documents, formatting documents, following through on assignments, coordinating projects and typing (memo, letter, report) under pressure and deadlines.

Student Evaluation:
20% testing keyboard techniques
20% testing grammar, punctuation
20% testing editing and projects
40% evaluation as a WP employee (performance in WP center)

Work should be logged in and out by a student supervisor. Students should keep a daily log of items produced and a file of recorded media.

Use an evaluation form to appraise the students for:
-organization of work
-ability to finish assignments
-attitude and overall personality
-dress and grooming
-time utilization
-quality and quantity of work
-initiative, punctuality, attendance

Cooperative Course: Select training stations with specialized equipment.

Survey the WP community to determine those WP managers who are willing to work with the students.

INSTRUCTIONAL MATERIALS

High School Level

WORD PROCESSING CONCEPTS AND APPLICATIONS
Gregg-McGraw/Hill Publishing Company
Manchester Road
Manchester, MO 63011

WORD PROCESSING CONCEPTS
Mona Casady
South-Western Publishing Company
5101 Madison Road
Cincinnati, OH 45227
(recommended as a text)

WORD PROCESSING IN THE MODERN OFFICE
Paula B. Cecil
The Benjamin/Cummings Publishing Co., Inc.
2727 Sand Hill Road
Menlo Park, CA 94025

INTRODUCTION TO WORD PROCESSING
Jennie Mason
Bobbs-Merrill Educational Publishers
4300 W. 62 Street
Indianapolis, IN 46268

INTRODUCTION TO WORD PROCESSING
Zane K. Quible and Margaret H. Johnson
Winthrop Publishers, Inc.
17 Dunster Street
Cambridge, MA 02138

WORD PROCESSING
Joyce J. Caton
Milliken Publishing Company
St. Louis, Missouri

WORD PROCESSING OCCUPATIONAL MODEL
MPC Educational Publishers
3839 White Plains Road
Bronx, NY 10467
(recommended as an application unit)

CURRICULUM CHANGES

1. Return Business English, careers, and consumer economics to the business department.

2. Remove antiquated equipment from the classroom and program: mimeograph or stencil duplicator, rotary calculator, keypunch, ditto or spirit duplicator, full-key adding-listing machine, manual typewriter.

3. Emphasize Business English.

4. Require transcription skills as a prerequisite to shorthand skills.

5. Enroll only those students with demonstrated ability in keyboarding/proofreading, Business English, and transcription skills in specialized equipment courses.

6. Provide equipment demonstrations, films, and lectures from manufacturers.

7. Ensure that up-to-date periodicals are on file in the library and classroom.

POST-SECONDARY CURRICULUM

Level	Required Courses	Credit Hrs.
1	Elementary Typewriting (Keyboarding)	3
1	Intermediate Typewriting	3
1	Adv. or Production Typewriting	3
1	Business English	3
1	Concepts of Word Processing or Introduction to Word Processing	3
1	Machine Transcription	2
1	Office Procedures	3
1	Records Management	2
1	Word Processing Equipment I and/or II	1
1	Accounting I	3
1	Business Math/10-Key Pad	2-3
2	Human Relations in Business	3
2	Business Communications	3
2	Word Processing Applications I	2
2	Word Processing Applications II	2
	Suggested Courses	
2	Shorthand I	3-5
2	Shorthand II	3-5
2	Office Management	3
2	Principles of Management	3
2	Occupational Work Experience	3
		53-58

Level 1 indicates freshman level or first year in post-secondary school. Level 2 indicates sophomore level or second year in postsecondary school.

(FUTURE CURRICULUM)

When more high schools become involved in teaching word processing concepts, computer literacy, and in purchasing equipment, the post secondary institutions should offer more advanced courses to prepare the students for administrative positions.

Additional courses to be added are:

Introduction to Computer and Information Science: Since WP/DP are moving closer together, WP specialists need to be aware of the concepts of DP, terminology, etc.

Principles of WP Management: One of the roles of the post secondary institution would be to train students for supervisory and management positions in the area of word processing, as well as hiring and personnel supervision.

Occupational Work Experience: Actual work experience in a word processing situation.

Word Processing Dictation and Transcription: More dictation and transcription as would be used in a word processing situation.

COURSE DESCRIPTIONS

Elementary Typewriting: (Keyboarding) mastery of the typewriter keyboard, the margin settings, use of the calculator, and typewriter manipulations.

Intermediate Typewriting: review of beginning typewriting. A study of letter styles, tabulation, manuscripts, rough drafts, and business forms with an emphasis on speed and accuracy.

Advanced or Production Typewriting: business standards of speed and accuracy applied to tabulation problems, letters, manuscripts, and various business forms with efficient work methods and accuracy stressed.

Business English: development of sentence structure, correct spelling, punctuation, grammar, and capitalization usage in business communications.

Business Communications: the study of interpersonal, professional, verbal, non-verbal, and written communications. Instruction and practice in writing communications and in analyzing verbal and non-verbal communications are given.

Machine Transcription: operation of the transcribing machine: listening and typing, reviewing format of letters and reports, transcribing on forms, transcribing what was meant rather than what was said; presentation of specialty forms and terminology such as medical, legal, technical, government, etc.; realistic productivity standards comparable to those established for shorthand transcription courses.

Concepts of (or) Introduction to Word Processing: fundamentals of word processing. Its history, procedures, changes in organizational structure, document workflow (origination, producing, reproducing, copying, and distribution), equipment used by management and secretarial services, and career opportunities are emphasized.

Word Processing Equipment I and/or II: skills developed on equipment utilized in correspondence centers which include: inputting on rough draft material, making simple to extensive revisions, and printing text in final draft form. Grammar, punctuation, spelling, and proofreading are also emphasized.

(Depending on the type of equipment available, the first class could perhaps feature automated typewriters and the second class could feature stand-alone units and/or shared logic systems.)

Word Processing Applications I and/or II: preparation of documents, including basic re[illegible]g, print, adjust and revision operations, and adv[illegible] applications.

Office Procedures: included are human relations, correspondence, postal service, telephone services, bank or credit union services, ethics, mechanization in the modern business office, electronic mail, definitions of data processing and word processing, analysis of secretarial and administrative professions and identification of personal qualities for success in each profession.

Office Management: study of the management of office services and information processing. Emphasizes system analysis, office environment management, work simplification, measurement, salary administration, cost control, human relations in office administration, electronic mail and implications of data processing and word processing.

Principles of Management: explore the basic management function of planning, organizing, directing, and controlling. The basic management theories and concepts of authority, power, and responsibility are studied.

Human Relations in Business: a study and analysis of business situations concerning personnel. The supervisor's role in preventing and solving human relation problems is given major consideration. Actual job situations are presented.

Records Management: Types of filing equipment, procedures for charge-out, and follow-up methods of transfer (including storage and retrieval through electronic means, microfilm and microfiche) are studied.

Accounting I: introduction to accounting fundamentals, including journals, posting, ledgers, financial statements, and adjusting and closing entries.

Shorthand I: introduction to shorthand theory presented through reading, writing, dictation and transcription.

Shorthand II: development of skills in taking dictation and transcribing from shorthand notes to produce mailable documents.

Business Math/10-key pad: development of skill in solving business math problems using electronic calculators.

TEACHING SUGGESTIONS

Post-Secondary

(1) Give emphasis to refining proofreading and editing skills. Students must have the ability to locate and correct errors in spelling, sentence construction, punctuation, format, and context.

(2) Encourage students to develop an adequate foundation in basic communication skills, such as listening, reading, and writing.

(3) Develop dictation and transcription skills.

(4) Encourage students to develop a vocabulary of terms used in office activities, as well as understand the need for procedures manuals, office workflow, and learn standardization methods.

(5) Train students on automated word processing equipment. They must be able to perform machine transcription, apply correct punctuation and grammar to documents, design appropriate format for the document, coordinate projects and meet deadlines under situations of pressure.

(6) Change the method of testing to meet the needs in a word processing situation: such as, have students proofread their own work for errors, and exchange papers to be accountable for another person's errors, transcribe directly from recorded media into typewritten form, and use actual dictation rather than test examples.

(7) Have on-going evaluations of student use of text-editing equipment, such as "excellent," "satisfactory," and "needs improvement." Factors to be evaluated are knowledge of functions, routine applications and tasks, and creativity in developing new applications for equipment.

(8) Include the following topics in a course with emphasis on word processing and related office technologies: office history, terminology, office workflow and standardization, work components, office structure, and careers.

(9) Give emphasis to strengthen and develop rapid keying or rough draft speed with reasonable accuracy. Studies show that approximately 75 percent of the time spent working with a document in a text-editing machine is spent in the initial keying. Therefore, speed and accuracy must be developed.

(10) Develop proofreading competency. Proofreading skills are hard to teach because they embrace so many areas, from finding simple typographical errors to finding grammatical mistakes, to changes of tense, omissions, and improper language usage.

(11) Include the following suggestions for enhancing proofreading instruction: provide remedial instructions and exercises for students lacking basic written communications skills; stress that the most frequent proofreading errors are transpositions and errors involving similar words, numeric figures, and symbols; teach students to read one line at a time by the traditional paper-bail method or by scrolling up one line at a time on a text-editing machine; set high standards for proofreading competency, have students read once for content and a second time for grammar, spelling, and punctuation; prepare exercises that force learners to analyze correctness and meaning.

(12) Teach a course in word processing operator skills which includes an overview of word processing and the role of the word processing operator, operation of text-editing machines and machine transcribers; refresher studies in English usage including grammar, punctuation, and spelling; and experience in coordinating and following through on real-work assignments.

(13) Include the development of the following skills in a course for teaching administrative supervisor skills: ability to deal with all levels of management, knowledge of administrative assignments (including reproduction, distribution, and document storage and retrieval), understanding of word processing concepts and automated equipment capabilities, ability to train principals and administrative specialists in composing and dictating correspondence.

(14) Include the development of the following skills in a course for teaching administrative specialist skills: preparing travel and conference arrangements, composing and dictating letters, performing research and compiling facts, preparing agendas and minutes of meetings, making decisions and following instructions, setting priorities for work assignments, dealing tactfully with all levels of management and word processing employees, and using initiative and originality.

(15) Use vendor training manuals. Revise vendor training materials to fit students' reading level and to present instruction clearly and simply.

(16) Present the most-used and easiest text-editing procedures first. When writing or revising instructions for

students, highlight or emphasize special cautions. Use team learning. Train one student and have that student train the next one and so forth until the entire class is trained. However, the quality of instruction tends to decline when weaker students are training others; the teacher may need to re-initiate the training cycle.

(17) Teach word processing concepts prior to applications. Traditional objective tests can be used to evaluate knowledge of WP concepts. In applications courses, have students sign up for a certain number of hours of laboratory time each week so that you can make maximum use of the equipment. In applications courses, do production work for the school, faculty, administration, charitable organizations, or businesses. Charge for the cost of supplies, equipment usage, and/or time. WP applications can be evaluated on a mailable/unmailable basis--mailable meaning the objective of the applications project has been met.

INSTRUCTIONAL MATERIALS

WORD PROCESSING: OPERATIONS, APPLICATIONS, AND ADMINISTRATION
Walter Kleinschrod, Leonard Kruk, and Hilda Turner
Bobbs-Merrill Educational Publishers
4300 West 62 Street
Indianapolis, IN 46268

WORD PROCESSING FUNDAMENTALS
Shirley Waterhouse
Harper & Row
10 East 53 Street
New York, NY 10022

WORD PROCESSING IN THE MODERN OFFICE
Paula B. Cecil
The Benjamin/Cummings Publishing Co.
2727 Sand Hill Road
Menlo Park, CA 94025

WORD PROCESSING CONCEPTS AND CAREERS
Second Edition
Marly Bergerud and Jean Gonzalez
John Wiley & Sons, Inc.
605 Third Avenue
New York, NY 10016

WORD/INFORMATION PROCESSING CONCEPTS: CAREERS, TECHNOLOGY AND APPLICATIONS
Marly Bergerud and Jean Gonzalez
John Wiley & Sons, Inc.
605 Third Avenue
New York, NY 10016

WORD PROCESSING KEYBOARDING APPLICATIONS AND EXERCISES
Arnold Rosen and William Hubbard
John Wiley & Sons, Inc.
605 Third Avenue
New York, NY 10016

THE LETTER CLINIC-HOW TO DICTATE
Anne L. Mathews and Patricia G. Moody
Southwestern Publishing Co.
West Chicago, IL 60185

THE COMPLETE GUIDE TO EFFECTIVE DICTATION
Jean Gonzales
Kent Publishing Co.
Boston, MA
(a division of Wadsworth, Inc.)

WORD PROCESSING SKILLS & SIMULATIONS
Jennie Mason
Bobbs-Merrill Educational Publishers
4300 West 62 Street
Indianapolis, IN 46268

WORD PROCESSING: VDT SYSTEMS
Benedict Kruse
Glencoe Publishers
17337 Ventura Boulevard
Encino, CA 91316
(recommended as an application text)

CURRICULUM CHANGES

Given below are suggestions as to how the curriculum should be changed to meet the needs of the office of the future:

1. Remove antiquated equipment from the classroom and program, such as mimeograph or stencil duplicator, rotary calculator, keypunch, ditto or spirit duplicator, full-keyboard adding/listing machine, and manual typewriters.

2. Emphasize business communications, the listening and writing aspect, in all classes.

3. Include transcription skills as a pre-requisite to shorthand.

4. Provide field trips and demonstrations of the latest equipment being used in the business office today.

5. Keep up-to-date periodicals available for student use.

6. Add an in-depth concepts course on word processing.

Prices quoted in this Section are as of September, 1981. Prices may change at any time, so check with the individual companies. No attempt was made to include every piece of equipment on the market. Check in your local area in the Yellow Pages under "Word Processing Equipment" for vendors in your area.

Electronic Typewriter

* Price ranges from $1,500 - $6,000
* Look like typewriters
* Ability to edit text, phrases, and format
* No video display screen, but may have a one- or two-line display
* Document, phrase, and format storage

Representative Equipment:

Exxon QYX 1 +, 2
IBM 50, 60, 75
Olivetti ET 221, ET 231
Olympia 6010
Royal 5010, 5030
Philips Micom 1001
Triumph Adler
Olivetti Praxis 35

Each of the electronic typewriters listed has an internal memory which allows the operators to store a few lines or several pages of information. Stored material can be recalled for simple editing and error-free printout. Among common features available are automatic centering, indenting, and underlining. The printing is typewriter quality and prints at a speed of approximately 15-30 characters per second (cps).

The electronic typewriter can increase productivity from 5 to 50 percent because the computer memory frees the user from repetitive tasks. Electronic typewriters are economical in producing letters, short documents, and frequently typed business forms. For these tasks it performs as well as a $6,000 - $22,000 word processor. Ey the end of 1980, over 200,000 electronic typewriters had been installed in offices in the United States. By the end of 1985 they are expected to account for a third of the eight million office typewriters in use.

Much of the success of the electronic typewriter lies in the fact that it is a practical, inexpensive way to overcome the fear of computer and technological change in the office.

Electronic typewriters can be placed where regular typewriters have been used and bridge the gap between typewriters and costly word processors. Prices are expected to decrease because of the reduction of intelligence and storage costs.

A special note about the Smith Corona Typetronic: At $895, this is the least expensive of the electronics, but it has no storage memory and does not compare with the other machines listed under "Representative Equipment" above.

Standalone Text Editor

* Price Ranges from $5,000 - $10,000
* Keyboard/Printer with removable magnetic media
* Information stored on magnetic cards, cassette tapes, or mini-floppy disks
* May have a single-line display
* More storage than electronic typewriter
* More editing capabilities than electronic typewriter
* Typing and printing on same system

Representative Equipment:

A. B. Dick Magna I
AM International 225
Adler Royal SE 2000, 6000
Burroughs Redactor I
Dictaphone 3010
Qyx Levels IV and V
Savin 950
Royal Onmiwriter

Each of the standalone text editors stores information on removable media. This text editor differs from an electronic typewriter in that it will have some place to insert and remove storage media. Storage media on some systems use a separate box, and others incorporate it into the body of the typewriter. These systems are effective for repetitive typing and typing with minor additions and deletions of text. A major limitation of non-display machines involves the necessity of typing and printing on the same unit; therefore, the operator cannot perform both tasks simultaneously, which lowers productivity.

While this type of equipment may be considered "obsolete" in view of the display standalone systems which are on the market, they still can serve the purpose of training. This type of equipment is currently used in many offices.

Display Standalone Text Editor

* Price ranges from $8,000 - $22,000
* CRT (Cathode Ray Tube) Display Screen
* Automatic centering of words, sentences and paragraphs
* Justified right margin
* Ability to move words, sentences, or paragraphs
* Prints at speeds of 30-92 cps
* Storage on "Floppy Disks"
* Electronic storage of words, addresses, or paragraphs
* Software programmable

Representative Equipment:

AM International
AM Jacqard
CPT 6000, 8000, 6100, 8100
DEC WS78, 80
Dictaphone 3000
IBM DisplayWriter, OS-6
Lanier "No Problem"
Lexitron VT 900, 1000
Philips Micom 2001
NBI 3000
Vydec 1400, 1800, 2000, 4000
Wangwriter, Wang Model 5
Xerox 850

A Display Standalone Text Editor is a totally independent desktop unit within an individual memory system which has a separate printer. These systems are considered superior to the Standalone Text Editor, but systems vary greatly in capabilities and features. Several Standalone units can share a printer, with the obvious productivity saving of simultaneous input and output.

The operator uses a keyboard to type material which is displayed on a screen, and corrections and changes are made in visual display. When the document meets the operator's standards, it can be transferred from the screen to a "floppy disk" that resembles a 45 rpm phonograph record. Depending upon the size, disks hold from 40 to 130 pages of text each.

Displays make error corrections significantly easier; large revisions or reorders are very easy to make, too. The use of the screen also allows corrections to the copy without wasting paper and with less time than it would take with an ordinary typewriter. A screen helps locate material because the copy can be put onto the screen from the floppy disk at a faster rate than it could be printed out. Screens come in various sizes ranging from 10 to 66 lines.

The electronic circuitry makes the word processor much more productive than ordinary typewriters, and some systems can do

data processing functions such as calculations, alphabetical and numerical sort, and basic accounting such as payroll, general ledger, or inventory.

Microcomputers Used as Word Processors

The microcomputer was orginally designed as a "hobby" or "personal computer;" however, because of its relatively inexpensive cost and flexibility, microcomputers are frequently purchased for the business education classroom. Microcomputers can now serve as a basis for a course in data processing including data entry, programming, printer control and manipulation, storage, storage retrieval, and computer operations. They can be used in a computer literacy course which focuses on the practical use and application of the computer in schools, home, and businesses.

Even though microcomputers are not typically purchased primarily for word processing, the cost and the availability of word processing software makes them an alternative to traditional word processing equipment for introducing word processing concepts and simple applications.

Several points should be kept in mind, however, about using a microcomputer as a word processor.

1. Word processing software is available and getting better, but some of it still has "bugs." This situation has occurred because software houses and vendors have developed packages which may or may not do what originators claim they will do in order to meet the demand for word processing software.

2. It is not necessarily true that the microcomputer is the least expensive way to acquire word processing. Upgrades on a microcomputer for word processing may include increase of memory, one or two floppy disk drives, a letter-quality printer, supplemental interface boards, and software. These may add up to the lower end price of a Display Standalone Text Editor.

3. Performing word processing applications on a microcomputer usually requires more steps and a slower response than what would occur on a word processing text editor.

Typical Pricing

APPLE II - PLUS
48K, letter-quality printer, 80-column upper and lower-case board, WP package $6,000

RADIO SHACK TRS-80, Model II
64K, letter-quality printer, WP package $6,200

Representative Equipment

Apple
Atari
Commodore Pet
Cromenco
Heath
North Star Computers
Radio Shack TRS-80
Vector Graphic

Data is entered on a microcomputer on a keyboard, which is similar to a typewriter keyboard. A visual display screen displays data as it is keyboarded. Many times the keyboard and the screen will be integrated in a single unit. Data is printed on a character printer (approximately 30-45 characters per second) or a line printer (approximately 300 cps).

Data may be stored on an audio cassette or a "floppy" disk. Cassette storage is sequential (in order recorded) whereas disk storage is random-accessed (accessed anywhere on the disk).

Software allows the user to utilize the system for word processing applications. Programs may be written in several languages, with BASIC as the most common because BASIC uses commands that are English-like in format. Many software packages can be purchased from $40-$400 so that the user does not have to write software. A detailed analysis of word processing software for the Apple II microcomputer is available in the April, 1981, issue of the Seybold Report on Word Processing, from Seybold Publications, Box 644, Media, PA 19063.

Word processing software is improving every day, but listed below are limitations of some software packages.

1. Some word processing software packages do not display both upper and lower case on the screen, even though the print-out will be in upper or lower case. Some microcomputers have reverse video-display, but most microcomputers do not have a shift key which is commonly found on the typewriter. Consequently, a special key is used for capital letters.

2. The screen may be 40 characters across and 16 to 24 lines down. The size of the screen may cause problems when editing lengthy documents. Some of the microcomputers do not "word wrap" but arbitrarily divide words (not necessarily at syllables).

3. Most microcomputers were not designed for cursor movement around the screen. Therefore, to move the cursor on most microcomputers, it is necessary to use existing keys. For example, to move up a line, one would hold down a letter key plus a control key. To make a change to that line, it may necessitate holding down three keys and using both hands.

4. There are more commands to remember and more keys to strike than on a word processor; therefore, there is more likelihood of making errors.

While microcomputers have limitations in word processing, schools may find their use in the classroom attractive on the basis of affordability and flexibility. In the December 1, 1980, issue of U.S. News and World Report, it was predicted that home computers will be in 80 percent of U.S. homes by 1990. The use of microcomputers in the classroom is one way a business teacher can help prepare computer literate students.

Word Processing/Data Processing Systems

Data processing systems have traditionally offered word processing capabilities with most of the emphasis on editing functions rather than formatting. The first word processing software packages were developed for data processing professionals, and they were complicated to use, requiring coding and memorization. The software, however, is changing and is easier to use and operate.

If the school already has a large main-frame computer, it may be advantageous to consider that a word processing software system be added. Once word processing software is added, terminals (which can be located almost anywhere) can access the word processing options. Therefore the system can handle several teaching stations. Printers can also be added for the output.

Questions to ask when looking at word processing/data processing systems are:

1. Does the system handle DP at the same time as WP?

2. How good is the program documentation?

3. Is there support and training?

4. Will you receive updates? If so, what is the cost?

5. Ask for references. Has anyone used the program sucessfully?

6. Is the system fast enough?

7. Should the computer mainframe go "down," would there be any problem with downtime of all word processing terminals?

There is a functional difference between data processing and word processing. Word processing refers to letters, reports, and narrative material. Information processed by word processing operations include formatting text, reusing standard text or formats in repetitive documents, and editing long documents.

Information processed by data processing concerns itself mostly with raw data (figures or numbers). Either the data is rearranged in some way or there is a computational problem to solve.

For a description of software programs designed for the Vector Graphic VIP microcomputer, Shasta General Systems' Diablo 3200 small buisness computer, and the Datapoint 3800 multifunction processor operating in an Attached Resource Computer environment, please see the June, 1981, issue of Word Processing and Information Systems, "Small Computers Have Smart WP Packages," Walshe, pp. 22+.

Printers

Printers are a separate piece of equipment connected to a word processor. They are designed solely to print documents on paper. Printers available with text editors consist of the following types:

1. Mechanical character printer - comparable to an IBM Selectric typewriter, usually has a single element, impact printer (element strikes the paper character by character).

2. Daisy Wheel character printer - Diablo or Qume are common brand names. Much faster than the mechanical printer, but also more expensive. The circular design of the print wheel allows the units to print up to 55 to 60 cps. It is an impact printer with less impact than mechanical printers, and consequently, fewer carbon copies can be made.

3. Line printer - Uses dot matrices or other methods to compose a standard character, does not have varying type styles, not letter quality, ideal for rough drafts, prints at 100 to 300 cps.

4. Ink Jet printer - A nonimpact printer does not use a printing element or wheel, that prints by a spray of electrostatically-charged ink; marginally faster than impact printers. Proper mechanical adjustments and

correct type of paper are required for clear, sharp print.

5. Image printer - Combines fiber optics or lasers with plain paper copier technology, is expensive, 1,200 to 2,000 cps. Degree of letter-quality print depends on proper machine adjustments.

6. Intelligent copier - Links a word processor to an office copier that can accept both digital and hard-copy paper input, can be used as traditional office copy machine when not used for word processing, costs similar to an electronic typewriter.

Some word processors allow simultaneous input/output. This is a process by which some word processors allow a document to be typed or revised while another document is being printed. This is sometimes called "background printing."

In conclusion, the financial situation of your school's budget gives you one of four basic options in making equipment choices:

OPTION A - Limited funds

If there are already microcomputers used in the school, check on the possibility of sharing the microcomputers and purchasing word processing software. The software charge will range from $100 to $400. Check on the printer available; a letter-quality printer may be something you will want to purchase. Add more dictation and transcription equipment.

OPTION B - Funds ranging from $2,000 to $6,000

Microcomputers--limited word processing capability, but more flexibility than electronics or blind standalones

OPTION C - Funds ranging from $6,000 to $10,000

Less expensive display standalones. Less capability than the more expensive display standalones. Possibly only one disk drive and/or partial-page screen.

OPTION D - Over $10,000

Display standalone word processor. Inclusion of records processing and more advanced applications. Check with the possibility of sharing equipment with the administration.

TRAINING

Most word processing vendors offer training at no charge for the primary operator and one back-up operator. The additional training costs may vary from $75 - $400 or to $50 an hour. The vendor training session will run a minimum of 15 - 20 hours. Obviously, the average vendor training program only can introduce machine capability and techniques, and it will take practice and research on the part of the instructor to learn the total capabilities of the system and then be able to teach those capabilities to students. There is no reason to purchase an expensive word processor if the system is not used to its capacity.

The major goal of the training program should be to teach the logic behind the equipment--not to press buttons. Armed with the knowledge of logic, a student can leave the classroom and transfer knowledge to other systems.

It is recommended that two or three students work together to learn the system. An instructor should monitor the progress of the student to avoid misconceptions and to help evaluate the student. Students may spend time on unnecessary keystroking because they are unaware of the capabilities of the system. The program should include oral instruction, written exercises, and drills. The more practical experience a student receives, the shorter the training time. Trial-and-error type of instruction should be turned into a learning exercise.

Most schools have organized either simulated laboratories or actual "working" word processing centers. For further information regarding various training methods, please refer to The Reference Guide to Word Processing Education, developed by the Educators Advisory Council, International Information Word Processing Association, 1015 North York Road, Willow Grove, Pennsylvania 19090. Information about laboratory courses can be found in Section D.

FUNDING SOURCES FOR WORD PROCESSING EQUIPMENT

Motivated teachers are often responsible for securing funds for the purchase of equipment. Before the teacher makes any recommendations to an administrator, the teacher should have a working knowledge of the equipment capabilities and specifications, be able to document need for the training in the community, and elicit the support of the local program area advisory council.

Once a teacher is familiar with the range of products on the market, a presentation should be made to the school administration to create their interest and support. It is suggested that the presentation be well-planned and

thoroughly researched. A possible source for preparing the research is Writing a Word processing Grant Proposal by Rosemary Fielden. This book is avilable from IWP, Maryland Road, Willow Grove, PA 19090 for $3.50.

The Kansas Department of Education does not furnish funds to existing vocational programs for the purchase of equipment. If a new or expanding program is established, funds are available, but not for the purchase of equipment.

The Elementary and Secondary Education Act, Title IV-4, has funds available to purchase microcomputers, whether the program is vocational or non-vocational. The objectives of the Act are to provide library resources, textbooks, and other instructional materials, and instructional equipment. Focus is on disadvantaged and bilingual students, on filling manpower needs, and on business community involvement. Funds may be used for the purchase of a computer, instructor's curriculum manual, user's manual, individual student manuals, and software programs. The funds are especially for, but not limited to, library resources. Check with your local administrator on the availability of funds.

There are federal agencies which have funds available for the purchase of equipment. Please see the resources listed in the grant proposal guide listed above.

THE WORD PROCESSING DEMONSTRATION

Several decision-making guides are available to help rate equipment. On page 127 of the Word Processing Curriculum Guide, NBEA, 1906 Association Drive, Reston, VA 22091, ($7.50), is a rating sheet which not only helps choose equipment but also gives a formula for determining word processing equipment needs based on students enrolled in the program. In Words, April-May, 1979, pages 32-33, is a worksheet for choosing equipment.

The following information was summarized from "How to Get the Most from a Demonstration," Modern Office Procedures, June, 1980, pp. 58-64.

Before Going to the Demonstration

Develop a demonstration package which represents the type of work you expect the system to produce. This package ensures that all the systems you see will be evaluated based on the same criteria, as well as your needs. You may want to include such things as input, editing, a statistical format, and a standardized form. If you do not develop this demonstration package, you will see only the highlights of each piece of equipment that the vendor chooses to emphasize rather than the features necessary for your needs.

If some of the work takes time, you may want to give copies to the sales representative before the demonstration. It is important, however, not to let the demonstration documents be "canned" or prepared in its entirety ahead of time. You need to see what goes into creating documents and how long it takes to set up work. Allow at least one hour for the demonstration. Develop a form with the questions you need to ask during each demonstration. Include an area to make notes about each application in the demonstration.

Beginning of the Demonstration

Make certain the equipment is not "on." If it is, have the sales representative turn it off so you will be able to evaluate the start-up steps that you will go through each morning (or possibly each class period).

Ask the salesperson to identify the equipment you are receiving a demonstration on, specifically the model name or number of the product. Ask the salesperson to list the options which are on the demonstration system. By doing this you will find out what machine is being demonstrated and eliminate the possibility of evaluating one system, but

buying another model and assuming that they are the same. You may later find out that the features are not on the system you actually purchased or find that you needed certain "options" that you did not receive. Unless you buy that same model with the same options, some of the "sales pitch" may not be valid for you.

Find out who manufactures the equipment. Some "parent" companies manufacture other products but only market word processing equipment manufactured by another company. This can make a difference to you if you ever have technical problems with the equipment, such as software problems with the design of a certain component.

Ask when the system was introduced to the marketplace and how many of these systems are installed in the local area as well as nationally.

During the Demonstration

The initial basics of the demonstration should include:

Start up---procedures to turn the system on and get it ready for work

Set up-----procedures to get ready to record information (setting margins, tabs, getting onto media, etc.)

Recording--of a page of demonstration text; basic formatting on the page should include single spacing, double spacing, flush indentation of paragraphs, underscoring, centering a heading, typing of columnar numbers within the body of the page

Printing---of the input page properly balanced on a sheet of paper

Filing-----of the document onto the media, including any indexing necessary to retrieve the information later

Removal----of the media from the system during or after printout

Retrieval--of the information from the media by re-inserting it into the equipment and calling it up for proper revision.

Editing----of the information based on the predetermined edits in your demonstration package sample. This editing should include:
- Correcting simple typographical errors
- Adding/deleting sentences or phrases
- Moving and copying paragraphs to other pages
- Adjusting right margin
- Pagination (re-defining new page boundaries)
- Controlling widow and orphan lines of text
- Handling automatic numbering of pages
- Changing spacing from single to double

Printing---of the edited information in the new format

Filing-----of the information over the same document and/or onto new media (keeping the original).

Take all copies of all printed documents with you, including the false starts, mistakes, and reprintings. Make a note of what happened to produce these errors.

If the person demonstrating the equipment is pushing buttons or talking too fast, stop the demonstration and ask the individual to slow down. Ask to see media labels and envelopes printed.

Many features require special programming to be used efficiently. After installation, many users and operators find that while the feature works, it is not viable for their operation because it takes too much time to program or is too cumbersome to use. While these features are nice to have (assuming they do not add to the cost), they should not be considered as a rationale for choosing one system over another, unless they can actually be efficiently used.

Software

If software is one of the system's features, be sure to identify whether software comes with the system price or is "rented" monthly. It is important to establish the cost of new software updates. Software updates come in two basic categories:

Modification or Updates - usually changes to the basic program which enhances operational procedures or adds features which were specified or promised at the time the equipment was delivered. These updates usually come with the price of the equipment.

Applications Packages or Expansion - usually additional capabilities of the system, which are application-oriented. Examples include communications options, math packages, DP-oriented applications, and sort or information retrieval. These packages are usually available at additional cost.

QUESTIONS TO ASK BEFORE YOU PURCHASE WORD PROCESSING EQUIPMENT

It is recommended that at least three or four different systems be considered before the purchase. Some questions to keep in mind while looking at equipment are:

1. Is the firm (both the manufacturer and the local dealer) reliable and reputable? Ask several people for a representative sample.

2. What is the length of time it will take to have the equipment repaired? How many qualified technicians are available? Is there a maintenance contract? Ask several users--not just "word of mouth."

3. Is training available? Vendors have different policies. How is it provided? How long? Where? What is the cost of additional training?

4. Is there a good training manual? Have exercises been developed for specific classroom use or will the manual need to be rewritten?

5. Do not base your decision on hardware alone. What are the capabilities for future expansion? Capability both now and in the future? Make certain your choice is not obsolete (and costly) in the future.

6. Ask to sit down and operate the equipment. Is it logical? Easy to use? Code oriented?

7. Obtain a customer reference list detailing its use in the community? Extent and applications?

8. Trade-in value? Is it better to lease or buy?

9. Indicate to the sales representative the different types of equipment you are considering. Encourage comparisons, then determine which features you need and the ones you can live without. The initial inquiry should be on the basic hardware configuration, the type of storage media used, price range, the advantages the equipment has in educating students compared with other equipment on the market, and on quality of service.

10. If possible, all of the business teachers who will be using the equipment should see the demonstration. Ask questions and make certain they are answered to your satisfaction. Make certain you thoroughly understand how different types of equipment can handle your applications. Beware of a "canned" demo where everything is worked out ahead of time--this may mean the system is not flexible.

11. Be aware of "hidden charges"--installment fees, training costs, service maintenance, delivery charges, and future equipment updates before you decide to purchase.

12. Do not be swayed by the sales representative's personality. After a sale is made, you will be dealing with the support and service people. Make it a point to meet these people. Ask for a user's list and call for references. Go back a second time to look at the equipment before making a final decision.

13. You may be entitled to a discount because the equipment is used in the school.

14. Do not buy "futures." If the equipment is not available anywhere, be wary. The delivery timetable may not be followed, and your equipment may be delivered months following the purchase.

It is not always the giant companies that have the best equipment. Many of the larger firms may have superior marketing techniques and, therefore, more visibility. Just because a company is small does not mean it cannot produce a good word processor. A safe choice is a company that offers regular updates to a good line of equipment and that provides dependable, prompt service.

RESOURCES

Professional Associations

Administrative Management Society, 1927 Old York Road, Willow Grove, PA 19090

American Business Communication Association, 317-B David Kinley Hall, University of Illinois, Urbana, IL 61801

American Federation of Information Processing Societies, 210 Summit Avenue, Montvale, NJ 07645

American Records Management Association, 24 North Wabash Avenue, Chicago, IL 60602

American Society for Personnel Administration, 19 Church Street, Berea, OH 44017

American Society for Testing & Materials, 1916 Race Street, Philadelphia, PA 19103

Association for Educational Data Systems, 1201 - 16th Street, N.W., Washington, DC 20036

Association of Records Executives & Administrators, P.O. Box 4259, Grand Central Station, New York, NY 10017

Association of Records Managers and Administrators, P.O. Box 281, Gradford, RI 02808

Computer and Business Equipment Manufacturers Association, 1828 L Street, N.W., Washington, DC 20036

International Personnel Management Association, 1313 E. 60th Street, Chicago, IL 60601

International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

National Business Forms Association, 1522 K Street, N.W., Washington, DC 20005

National Management Association, 333 West First Street, Dayton, OH 45402

National Office Products Association, 740 Investment Building, Washington, DC 20005

Office Microfilm Management Association, A.M.S. Building, Willow Grove, PA 19090

Professional Secretaries International, 2440 Pershing Road, Suite G-10, Kansas City, MO 64108

Society for Management Information Systems, Suite 2026, 221 North LaSalle Street, Chicago, IL 60604

Word Processing Society, P.O. Box 90920, Milwaukee, WI 53202

Periodicals

ABCA (American Business Communication Association) Bulletin and Journal, 317-B David Kinley Hall, University of Illinois, Urbana, IL 61801

Business Automation, Hitchcock Publishing Company, Hitchcock Building, Wheaton, IL 60187

Business Graphics, Graphic Arts Publishing Company, 7373 North Lincoln Avenue, Chicago, IL 60646

Business Management, Management Magazines, Inc., 22 West Putnam Avenue, Greenwich, CT 06830

Business Week, McGraw-Hill, Inc., 1221 Avenue of the Americas, New York, NY 10020

The Communicator, The Benjamin/Cummins Publishing Company, 2727 Sand Hill Road, Menlo Park, CA 94025

Computers and Automation, Berkeley Enterprises, Inc., 812 Washington Street, Newton, MA 02160

Computer Decisions, Hayden Publishing Company, 50 Essex Street, Rochelle Park, NJ 07662

Data Management, Data Processing Management Association, 505 Busse Highway, Park Ridge, IL 60068

Data Systems News, United Business Publications, 200 Madison Avenue, New York, NY 10016

Datamation, Technical Publishing Company, 1301 South Grove Avenue, Barrington, IL 60068

DataPro Reports on Word Processing, DataPro Research Corporation, Delran, NJ 08075

Human Resources Management, Graduate School of Business Administration, University of Michigan, Ann Arbor, MI 48104

Impact: Information Technology, Administrative Management Society, Maryland Road, Willow Grove, PA 19090

Information and Records Management, Information and Records Management, Inc., 250 Fulton Avenue, Hempstead, NY 11550

Information and Word Processing Report, Geyer-McAllister Publications, Inc., 51 Madison Avenue, New York, New York 10010 (bi-monthly)

Infosystems, Hitchcock Publishing Company, Hitchcock Building, Wheaton, IL 60187

Journal of Business Communication, American Business Communication Association, 317-B David Kinley Hall, University of Illinois, Urbana, IL 61801

Modern Office Procedures, The Industrial Publishing Company, 614 Superior Avenue, Cleveland, OH 44113

The Office, Magazine of Management, Equipment, and Automation, Office Publications, Inc., 1200 Summer Street, Stanford, CT 06904

Office Equipment and Methods, Maclean Hunter Business Publishing Company, 625 President Kennedy Avenue, Montreal Canada

Office Product News, United Technical Publications, Inc., Division of Cox Broadcasting Corporation, 645 Stewart Avenue, Garden City, NY 11530

Officemation Reports, Management Information Corporation, 140 Barclay Center, Cherry Hill, NJ 08034

Paperwork Simplification, The Standard Register Company, P.O. Box 1167, Dayton, OH 45401

Personnel Journal, P.O. Box 1520, Santa Monica, CA 90406

Records Management Quarterly, Association of Records Managers and Administrators, P.O. Box 281, Bradford, RI 02808

Reproductions Review and Methods, North American Publishing Company, 134 North 13 Street, Philadelphia, PA 19107

The Secretary, Professional Secretaries International, 2440 Pershing Road, Suite G-10, Kansas City, MO 64108

The Seybold Report on Word Processing, Seybold Publications, Inc., Box 644, Media, PA 19063

Viewpoint, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

The Word, Word Processing Society, Inc., Box 92553, Madison, WI 53202

Word Processing, Office Products Division, International Business Machines Corporation, Parson's Pond Drive, Franklin Lakes, NJ 07417

Word Processing Report, Geyer-McAllister Publications, Inc., 51 Madison Avenue, New York, NY 10010

Word Processing Systems, Geyer-McAllister Publications, Inc., 51 Madison Avenue, New York, NY 10010

Words, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

Zip, North American Publishing Company, 401 North Broad Street, Philadelphia, PA 19108

Books and Pamphlets

A COMPENDIUM INTRODUCING WORD PROCESSING POWER TYPING, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

COMPENDIUM OF COMUTER-BASED WORD PROCESSING SYSTEMS, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

DARTNELL'S GLOSSARY OF WORD PROCESSING TERMS, The Dartnell Corporation, 4660 Ravenswood Avenue, Chicago, IL 60640

THE GREGG REFERENCE MANUAL, Fifth Edition, Sabin, McGraw-Hill Publishing Co., Manchester Road, Manchester, MO 63011

GUIDEBOOK TO WORD PROCESSING WORK MEASUREMENT, Arthur Thursland, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

HOW 2, A HANDBOOK FOR OFFICE WORKERS, Second Edition, Clark & Clark, Wadsworth Publishing Co. Inc,, Belmont, CA 94002

INTRODUCTION TO WORD PROCESSING, Mason, Bobbs-Merrill Company, Inc., 4300 West 62 Street, Indianapolis, IN 46268

INTRODUCTION TO WORD PROCESSING: SKILLS AND SIMULATIONS, Mason, Bobbs-Merrill Company, Inc., 4300 West 62 Street, Indianapolis, IN 46268

IWP PACKET SERIES, PART ONE: SELECTED ARTICLES FOR THE WORD PROCESSING NOVICE, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

IWP PACKET SERIES, PART TWO: SELECTED ARTICLES (INTERMEDIATE), International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

MACHINE TRANSCRIPTION AND DICTATION, Kupsh, Anderson, Meyer and Moyer, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10016

MACHINE TRANSCRIPTION WORD PROCESSING, Pasewark, South-Western Publishing Co., 5101 Madison Road, Cincinnati, OH 45227

MANAGEMENT IN WORD PROCESSING OPERATIONS, Paula Cecil, Cummings Publishing Co., 2727 Sand Hill Road, Menlo Park, CA 94025

MANAGEMENT INTRODUCTION TO WORD PROCESSING, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402

MANAGEMENT'S GUIDE TO WORD PROCESSING, Kleinschrod, Dartnell Corporation, 4660 Ravenswood Avenue, Chicago, IL 60640

REFERENCE MANUAL FOR OFFICE PERSONNEL, House & Koebele, Fifth Edition, South-Western Publishing Co., 5101 Madison Road, Cincinnati, OH 45227

SUCCEEDING AT WORD PROCESSING, L. Petrovich, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

THE WP BOOK and THE WP BOOK, AN INDIVIDUALIZED LEARNING GUIDE, Kutie & Huffman, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10016

THE WORD BOOK (a comprehensive word list and reference book), Kahn & Mulkerne, Glencoe Press, 8701 Wilshire Boulevard, Beverly Hills, CA 90211

WORD/INFORMATION PROCESSING: CONCEPTS, CAREERS, TERMINOLOGY, AND APPLICATIONS, Bergerud and Gonzales, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10016

WORD PROCESSING, Anderson and Trotter, Amacom, 135 West 50 Street, New York, NY 10020

WORD PROCESSING, Rosen and Fielden, Prentice-Hall, Inc., Sullivan Avenue, Englewood Cliffs, NJ 07632

WORD PROCESSING AND CAREER OPPORTUNITIES, Wagoner, Bureau of Business Research, College of Business, Ball State University, Muncie, IN 47306

WORD PROCESSING: A SYSTEMS APPROACH TO THE OFFICE, McCabe and Popham, Harcourt Brace Jovanovich, Inc., 757 Third Avenue, New York, NY 10017

WORD PROCESSING AND EMPLOYMENT, A Survey Report, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

WORD PROCESSING CONCEPTS, Mona Casady, South-Western Publishing Co., 5101 Madison Road, West Chicago, IL 60185

WORD PROCESSING: CONCEPTS AND APPLICATIONS, Ellis, Gregg McGraw-Hill Book Company (with dictation cassettes (optional) and teacher's manual and key) Manchester Road, Manchester, MO 63011

WORD PROCESSING: CONCEPTS AND CAREERS, Bergerud and Gonzales, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10016

WORD PROCESSING CURRICULUM, IBM Office Products Division, Parson's Pond, Franklin Lakes, NJ 07417

WP EDUCATION, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

THE WORD PROCESSING EXPLOSION, Konkel and Peck, Office Publications, Inc., P.O. Box 1231, Stanford, CT 06904

WORD PROCESSING FUNDAMENTALS, Waterhouse, Harper and Row, 10 East 53 Street, New York, NY 10022

WORD PROCESSING GLOSSARY, International Information Word Processing Association, Maryland Road, Willow Grove, PA 19090

WORD PROCESSING GLOSSARY, Compiled by Lori Schultz, Word Processing Society, Inc., P.O. Box 92553, Milwaukee, WI 53202

WORD PROCESSING IN THE MODERN OFFICE, Cecil, Cummings Publishing Company, Inc., 2727 Sand Hill Road, Menlo Park, CA 94025 (student workbook and teacher's manual available)

WORD PROCESSING: OPERATIONS, APPLICATIONS AND ADMINISTRATION, Kleinschrod, Kruk, and Turner, Bobbs-Merrill Publishing Co., 4300 West 62 Street, Indianapolis, IN 46268

WORD PROCESSING--THE CORRESPONDENCE SECRETARY (simulation), Frye & Thompson, MPC Educational Publishers, 3839 White Plains Road, Bronx, NY 10467

WORD PROCESSING SKILLS AND SIMULATIONS, Jennifer Mason, Bobbs-Merrill Publishing Co., 4300 West 62 Street, Indianapolis, IN 46268

Curriculum Resources

California State Department of Education, 721 Capitol Mall, Sacramento, CA 95814

Curriculum Materials Service, Department of Vocational Education, Colorado State University, Vocational Education Building, Fort Collins, CO 80523

Career Education Center, 415 North Monroe Street, Tallahassee, FL 32306

Illinois Curriculum Management Center, Division of Vocational and Technical Education, 1035 Outer Park Drive, Suite 201, Springfield, IL 62706

Instructional Materials Laboratory, School of Technology, Indiana State University, Terre Haute, IN 47800

Kansas Vocational and Technical Curriculum Center, Kansas State College of Pittsburgh, Pittsburgh, KS 66762

Curriculum Development Center, Taylor Education Building, Room 151, University of Kentucky, Lexington, KY 40506

Vocational Curriculum Development and Research Center, P.O. Box 657, Natchintoches, LA 71457

Technical Education Research Center, 44 Brattle Street, Cambridge, MA 02138

Minnesota Instructional Materials Center, 3300 Century Avenue North, White Bear Lake, MN 55110

Research and Curriculum Coordinating Unit, Mississippi State University, P.O. Drawer DX, State College, MI 39762

Instructional Materials Laboratory, University of Missouri, 8 Industrial Ed., Columbia, MO 65201

Vocational-Technical Curriculum Laboratory, Rutgers University, Building 4103 - Kilmer Campus, New Brunswick, NJ 08903

Vocational Instruction Unit, New Mexico State Department of Education, Education Building, Sante Fe, NM 87503

The Center for Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, OH 43210

Instructional Materials Laboratory, Trade and Industrial Education, The Ohio State University, 1885 Neil Avenue, Columbus, OH 43210

Curriculum and Instructional Materials Center, State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, OK 74074

Vocational Education Media Center, Clemson University, Freemen Hall, Clemson, SC 29631

Vocational Curriculum Laboratory, State of Tennessee, Department of Education, P.O. Box 1114, Murfreesboro, TN 37130

Instructional Materials Center, Division of Extension, The University of Texas at Austin, Austin, TX 78712

Vocational Instructional Services, Vocational-Industrial Education Department, Texas A & M University, College Station, TX 77843

Curriculum Laboratory, Cedar Lakes Conference Center, Ripley, WV 25271

Audio-Visual Materials

(films) National Media, Inc., P.O. Box 787, Solana Beach, CA 92075

(slides/tapes/transparencies) National Instructional Systems, Inc., P.O. Box 1177, Huntington Beach, CA 92647

WORD PROCESSING EQUIPMENT, SERVICE, & SUPPLIES

Wichita

A. B. Dick Products Co.
400 Lulu
267-6208

Alpha Business Systems
650 Westdale Drive
942-2261

Computer Systems Design
906 North Main
265-1120

Micom Data Systems
1920 South Seneca
262-4731

Applied Business Systems, Inc.
1000 Parklane
681-1541

Dictaphone Corporation
415 Greenwood
262-7269

Hazeltine Service Co.
412 North Washington
263-0652

Radio Shack
1050 Oliver
685-2211

A. M. International, Inc.
940 North Waco
267-7344

CPT Corporation
Janzen Business Machine Inc.
2601 East Central
684-6596

Lanier Electronic Typing Systems
313 North Seneca
263-1591

3M Business Products Sales Inc.
4800 West Kellogg
943-9364

Burroughs Office Automation
2725 Douglas
682-6535

Wang Laboratories
413 South Pattie
267-1225

IBM
302 North Rock Road
685-5411

Kansas City

A. B. Dick Word Processing Equip.
2500 Pennway
421-1101

ABS Word Processing Supplies
8210 Nieman Road
492-4010

Burroughs Office Automation Systems
6405 Metcalf
677-5995

Computer Mart
1509 S. Noland Road
Independence
461-5005

Dictaphone Word Processing Systems
2841 Main
842-5626

IBM Corp.
2345 Grand
556-6800

Inland Business Systems, Inc.
105th & Santa Fe
Lenexa, KS
1-800-255-6420

Dictation Systems, Inc. (Lanier)
3855 S. Northern, Independence
358-7020

Word Processing Systems, Inc. (CPT)
5700 Broadmoor
362-7740

Electronic Business Equipment (NBI)
1500 Grand
221-6400

Exxon Information Systems
11855 W. 83 Terrace
888-8005

Techmark Corp. (Vydec)
11855 W. 83 Terrace
888-8005

Wang Word Processing Systems
973 Gardenview Office Pkway.
(314) 432-6515

Word-Tech (Olivetti)
3801 Southwest Trfwy.
531-3805

GLOSSARY

For more terms, check the following sources: IWP Word Processing Glossary and the Glossary & Standards, Datapro Research Corporation.

ACCESS TIME - time required by a system to locate information in internal or external storage.

ADJUST - text editing feature in which the system automatically adjusts the right margin during playback after insertions or deletions have been made.

ADMINISTRATIVE SPECIALIST - an employee who handles non-typing activities such as the telephone, filing, reservations, mail, etc.

ADMINISTRATIVE SUPERVISOR - an employee responsible for setting up administrative support groups and supervising the activities of administrative support groups.

ADMINISTRATIVE SUPPORT - concept where specialized, managed secretarial teams perform non-typing functions, such as telephoning, filing, mail, reservations, etc. This is in contrast to the traditional generalized secretary who performs typing and non-typing tasks for one or a few executives.

ADMINISTRATIVE SUPPORT CENTER - office area where the administrative support personnel operate as a team.

ADMINISTRATIVE TRAINEE - the employee responsible for performing routine administrative functions, an entry-level position.

ALPHABETIC COMMANDS - additional instructions to the system, implemented by a code or control key plus alphanumeric key or keys. The operator may be required to memorize most or all of the command set.

ALPHANUMERIC - pertaining to both alphabetic and numeric characters, and usually includes all printable special symbols in the character set.

ASCII - an acronym for "American Code for Information Interchange." This standard defines the codes for a character set to be used for information interchange between equipment of different manufacturers and is standard for digital communications over telephone lines.

AUTOMATIC ANSWERING DEVICE - answers incoming phone calls and gives a pre-recorded message. At end of message, unit usually switches audio from outgoing to incoming, permitting callers to leave messages.

AUTOMATIC CARRIER RETURN - automatic performance of a carrier return when the last word which will fit onto a line is typed.

AUTOMATIC CENTERING - the automatic ability to center a word or text segment. This function is usually implemented by a keystroke(s) instructing the system to center the previously typed or next text segment.

AUTOMATIC HEADERS/FOOTERS - ability to place header/footer text at the top or bottom of each page of a multi-page document.

AUTOMATIC LINE SPACING - different line spacings (single, double, triple, etc.) are permitted without making physical setting changes on the printer.

AUTOMATIC LINE/PARAGRAPH NUMBERING - where the system automatically supplies an identifying number for each line or paragraph during original entry, for use in defining location during subsequent editing.

AUTOMATIC MARGIN ADJUST - a special feature of automated typewriters which automatically changes length of typewritten lines to fit within desired margins.

AUTOMATIC PAGINATION - Ability to divide a multi-page document into pages of a specified length, in numbers of lines.

AUTOMATIC REPAGINATION - system has an automatic routine to change page endings if text is inserted or deleted within a document, or if a new page length is desired.

AUTOMATIC TYPEWRITER - the simplest form of word processor, used for straight, repetitive output with little or no text editing.

AUTOMATIC WORD WRAPAROUND - automatically places a word which does not fit onto the line being typed onto the next line.

BASIC - Beginner's All-purpose Instruction Code, a common high-level time-sharing computer programming language.

BIDIRECTIONAL PRINTER - the system prints line 1 from left to right, line 2 from right to left, etc., saving time by avoiding unnecessary carriage or element movement.

BOILERPLATE - stored paragraphs which may be combined to create a new document.

CARBON RIBBON - a ribbon backed with a carbon film for typewriters, producing a cleaner print impression than that usually achieved with fabric ribbon.

CARBON SETS - file and tissue copies, etc., manufactured with carbon paper attached.

CARBONLESS PAPER - stock especially treated or coated to achieve write-through without use of carbon interleaves or carbon coating.

CAREER PATHS - a management program providing opportunities for advancement to higher levels or positions.

CATHODE RAY TUBE (CRT) - an electronic vacuum tube, such as a television picture tube, that can be used to display text and graphic images.

CENTRALIZATION - concentration of word processing services in a single room or area within an organization.

CENTRALIZED CORRESPONDENCE CENTERS - grouping of correspondence specialists supporting the typing requirements of a group of principals.

CENTRALIZED DICTATION SYSTEM - all dictation channeled into a central location where it is recorded and transcribed.

CENTRALIZED WP - a system grouping secretarial employees into two major groups; correspondence and administrative support. Correspondence groups are responsible for processing all typing requirements of a group of principals, and administrative groups are responsible for processing the nontyping requirements of principals.

CHARACTER - any individual letter, figure, point, or symbol.

COBOL - "Common Business Oriented Language," a higher-level, English-like, computer programming language.

COLUMN MOVE/DELETE - The ability of the system to manipulate characters vertically within a column. This feature is important for tabular work, since a column can be moved or deleted with a minimum number of commands.

COMMAND - an operator instruction to a WP system.

COMPUTER OUTPUT MICROFILM (COM) - normal printed output of a computer reduced to one of several available microforms by a special output device that takes the place of the line printer.

COMPUTERIZED WORD PROCESSING - a word processing system based on digital computer technology.

CONSOLE - portion of a computer or word processing system intended to furnish communications between the human operator and the system by means of lights, switches, and sometimes a typewriter or display.

CONTINUOUS FORM - form manufactured from a continuous web which is not cut into units. Materials may be carbon interleaved, noncarbon interleaved, or carbonless. It may be zig-zag folded or non-folded.

COPY - in dual media word processing systems, the process of copying information from one media transport to the other.

COPY REVISION - typing tasks involving changes to a document previously recorded.

CORRESPONDENCE SPECIALIST - an employee responsible for producing typewritten documents by using machine transcription and automated typewriters, must be highly skilled in English usage and proofreading.

CORRESPONDENCE SUPERVISOR - employee responsible for setting up correspondence centers and supervising activities of a correspondence center.

CORRESPONDENCE TRAINEE - entry-level position requiring the employee learn to operate automated typewriters and machine transcription devices.

CPS - characters per second.

CPU - central processing unit, the heart of a computer that controls the interpretation and execution of instructions.

CURSOR - a light dot or blinking indicator to indicate position on a CRT.

DAISY WHEEL - print element for certain character printers where the characters are engraved at the end of spokes, the entire wheel resembling a daisy.

DATA PROCESSING - an operational sequence, usually mathematical, performed on facts and figures.

DECENTRALIZATION - the organization of word processing services by department or physical area.

DECENTRALIZED CORRESPONDENCE CENTERS - more than one group of correspondence personnel supporting the typing requirements of more than one group of principals; more groups of correspondence personnel support smaller groups of principals.

DECENTRALIZED WP - several groups of correspondence groups and separate groups of administrative personnel supporting the typing and administrative requirements of several groups of principals.

DICTATOR - the person who originates dictation.

DISC (DISK) STORAGE - a high capacity random access storage device in which data is written on and read from the surfaces of a stack of revolving record-like discs.

DISKETTE - see storage media, type.

DISPLAY SCREEN - a TV-like viewing screen located next or near a typewriter keyboard, which will display text.

DOCUMENT - a paper that furnishes information, proof, or support of something else. In word processing, it tends to be distinguished from "correspondence" as being more lengthy and complex.

DOCUMENT ASSEMBLY/MERGE - The way in which a system can assemble new documents from previously recorded text. Describes a system's ability to join a document to such variable information as names and addresses to create a number of nearly identical documents.

DRAFT - a rough and unedited copy.

DROPOUT - during playback, the brief loss of a recorded signal due to tape imperfection.

EDITING - changes or re-arrangements in the text, including reading back, scanning, deleting, substituting, inserting, and re-formatting.

EDP capability - the ability of a word processing system to do data processing tasks associated with word processing, or used independently for data processing tasks.

ELECTRONIC DATA PROCESSING (EDP) - data processing by way of electronic equipment, such as an internally stored program, electronic digital computer, or an automatic data processing machine.

ELECTRONIC KEYBOARD - a keyboard where characters are generated or encoded by electronic means. Such keyboards have a different feel, and some have built in an artificial "bottoming feel" and/or audible click to assure the operator a key has actually been depressed.

ELECTRONIC MAIL - the transfer of documents over communications channels, eliminating the need for physical movement of paper.

ELEMENT - refers to the removable element in some character printers containing the type set. The most common elements are the "golfball" element for the IBM Selectric and the "daisy wheel" for the Diablo and Qume printers.

ELITE - typewriter spacing at 12 characters per inch, also known as 12-pitch.

ENDLESS LOOP - a sealed, continuous loop magnetic tape recording system.

ENTRY - usually used to describe original typing and entry of text into a system.

FABRIC RIBBON - usually a nylon typewriter ribbon.

FACSIMILE - transmission and reception of exact and detailed image of the copy, usually by telephone lines.

FILE - in data processing, any set of related records, according to a single subject or transactions; it may consist of physical documents, data internally held within computer memory, or data recorded on some medium.

FILE MAINTENANCE - the activity of keeping a file up to date by adding, changing, or deleting data.

FILE MANAGEMENT - a designed procedure or set of processes for the creation of files and their maintenance.

FINAL COPY - a completed, perfectly typed document.

FIRMWARE - software furnished by a vendor which is "locked in" and not available to the user.

FLOPPY DISK - see diskette under storage media, type.

FONT - a character set of a particular type size and style.

FORMAT - the type style, size, page margins, printing requirements, etc., of a document, form, or any printed piece.

FORTRAN - FORmula TRANslator, the language for a scientific procedural programming system.

FUNCTION KEYS - keys on a keyboard, control panel, or console which activate some machine function other than printing.

GLOBAL SEARCH AND REPLACE - ability of a system to search for repeated occurrences of a character string. Some systems can automatically delete all occurrences of a string or replace all occurrences of one character string with another character string.

HARD COPY - typewritten or printed copy on paper.

HARD DISK - same as cartridge disc.

HEADERS/FOOTERS - text designated to be printed at the bottom (footers) or top (headers) of each page, such as page number, chapter, or section title.

HOT ZONE - hyphenation technique where the operator specifies a fixed or variable length zone next to the right hand margin. Any word that begins prior to the hot zone and which will not end before encountering the margin causes typing to halt as soon as the hot zone is entered.

IMPACT PRINTER - printing mechanism that strikes on letters and symbols. The most commonly used printers in WP are the Selectric II typewriter and the Qume or Diablo daisy wheel printer. An increasing number of systems employ the newer daisy wheel mechanism that offers higher output speeds than the single element mechanism.

INDEX - a list of documents contained on a unit of storage media. Also, a list of documents being manipulated, such as in printout queue.

INFORMATION - words and/or data.

INFORMATION PROCESSING - a term used to encompass more than data processing or word processing. Includes all business and scientific operations performed by a computer.

INPUT - material entered into a word or data processing system for processing.

INSERT - add characters, words, sentences, or paragraphs into copy.

INTELLIGENT TERMINAL - A terminal with some level of programmable "intelligence" for performing preprocessing or post-processing operations.

INTERFACE - an electrical connection which permits a peripheral device or communications channel to be attached to a system.

INTERNAL STORAGE - a memory with a moderate capacity and fast access used to hold data and programs during execution.

JUSTIFICATION - allows the operator to output text with even left- and right-hand margins, with equal line length calculated automatically by the system.

JUSTIFY - to output text with flush left and right margins.

KEYBOARDING - inputting information by manipulating a keyboard. Synonymous with "typing," except keyboarding does not necessarily produce printed output; keyboarding may produce recorded media that is stored until the printed output is needed.

LEAD SECRETARY - employee responsible for coordinating the activities of a work cluster.

LETTER-QUALITY PRINTING - print quality good enough for high-quality business letters. Generally implies print quality equal to that provided by standard office electric typewriters.

LINE PRINTER - printing device that prints a line at a time, at a higher speed than a character printer. They typically use a chain, drum, or train of print elements and have a hammer for each print position in the line.

LINE FEED - to advance a form one line at a time, usually accompanied by a carrier return.

LIST PROCESSING/LIST MERGE - ability of some word processing systems to maintain files in the form of lists; for example, a customer name/address file. Special commands and operating modes are provided to allow the operator to easily update the list, sort it, and merge it with another document or file for automatic print-out.

LOG SHEET - a document prepared and maintained by operators to index work on any given media.

MAGNETIC KEYBOARD - a word processor, the term implying that the system is provided with magnetic media to capture keystrokes, to record text, and to permit revisions.

MAGNETIC MEDIA - refers to magnetic cards, tape, or disc storage media. See storage media, type.

MENU - a list of alternative operator actions, supplied by the word processing system for operator selection.

MESSAGE RETRIEVAL - relates to the capability to retrieve a message some time after it has entered an information system.

MICROFILM, MICROFICHE - photographic film used as a storage medium for storing business records or other information in a data retrieval system. (are not synonymous terms)

MODEM - abbreviation for modulator/demodulator, a device used with a communications feature to convert digital word processing signals into analog or voice-like signals for transmission over a telephone line.

OPTICAL CHARACTER READER (OCR) - device or scanner which can read printed or typed characters and convert them into a digital signal for input into a data or word processor.

OUTPUT - process of transferring information from internal storage to external source, to the printing device, or storage medium. Also refers to that information itself.

PAGE SCROLLING - system can flip through pages of a document, usually in both forward and backward directions, allowing access to all text of a multi-page document.

PAGINATION - see automatic pagination.

PERIPHERALS - such devices as printers, OCR readers, and communications, which can be configured with word processing systems as options, extending their capabilities.

PICA - typewriter spacing at 10 characters per inch horizontally, also known as 10-pitch.

PIGGY-BACK FORM - continuous form consisting of a carrier sheet upon which has been mounted any kind of form or set. Commonly used in word processing for continuous letters and envelopes attached with fugitive glue.

PITCH - horizontal spacing of characters. Normal spacing is 10 or 12 characters per inch or proportional spacing.

PLAYBACK - process of printing or displaying edited or unedited copy after entry.

POWER TYPING - application or system that employs word processing equipment. Usually describes a low-level application such as typing repetitive letters.

PRINCIPAL - employee who is a producer of work and inputs work into the word processing system.

PRINT SPEED EQUIVALENTS -

Characters per sec. (cps)	words per min. (wpm)	lines per min. (lpm)
15	180	15
30	360	30
35	420	35
45	450	45
55	550	55
92	1100	92
100	1200	100
200	2400	200
300	3600	300
400	4800	400
500	6000	500

PRINTER - a machine which prints out processed text or data.

PRINTOUT QUEUING - allows a number of documents to be lined up or queued for subsequent printout while the operator goes on to perform other tasks.

PROGRAM - a step-by-step procedure which instructs a computer to accomplish a specified task.

PROOF - sample of printed output produced to allow inspection for errors.

PROPORTIONAL SPACING - typed, printed, or displayed text where each alphanumeric character is given a weighted amount of space. Example, an "I" might be one unit wide, an "L" three units wide, and a "W" five units wide. Output has a print-like appearance.

QUEUE - storage areas within a computer-based system, with each item in storage linked to the items before and after it to form a queue or line.

RECORDS CENTER - a low cost, centralized area for housing and servicing inactive or semi-inactive records whose reference rate does not warrant their retention in office space and equipment.

RECORDS PROCESSING - generally used to indicate manipulation of fields of information, such as resorting into different categories and selecting of certain fields, and the production of reports from manipulated files of data.

RECORDS RETENTION SCHEDULE (also known as records disposition or records control schedule) - a comprehensive schedule showing all actions to be taken in relation to the disposition of all of the records of a business.

RETRIEVE - to find and select specific information.

REVISION TYPING - typing tasks involving revisions to a document previously recorded.

SCANNING - (1) in dictation, refers to rapid listening and identification of specific parts of a recording. (2) in editing, viewing prerecorded text on a visual display for editing purposes.

SEARCH CAPABILITY - Method employed by the system to search for an editing point. Some systems search for document, page or paragraph number, or by line number; more sophisticated systems also search by character string.

SHORTHAND DICTIONARY - a special feature of automated typing systems used to store words or phrases that are frequently used and recall them for display with a one- or two-letter code.

SKIP CAPABILITY - ability of the system to jump over certain segments of a document at command for editing purposes, while leaving it unchanged on the storage media.

SOFTWARE - machine programs which instruct and control computer operations. Also used to include non-hardware parts of the system, including manuals, training, etc.

SPLIT KEYBOARDING - keyboarding and editing on one unit and playback on another.

STANDALONE WORD PROCESSING SYSTEM - a text editor (blind or visual display) which can perform all its functions without sharing the processing power of a central computer.

STORAGE MEDIUM - devices capable of holding information recorded in machine readable format.

STORAGE MEDIA, TYPE -

Magnetic Card--tab-size card coated with magnetic material, holding about 50 to 100 lines of text and codes.

Cassette--magnetic tape loaded into a reel-to-reel cassette that holds about 40 to 50 pages of text.

Diskette or Floppy Disc--a square of magnetic coated mylar enclosed in a protective envelope that holds from 30 to 100 pages of text. These are formatted for random access, which allows speedier search to a particular location than serial access.

Hard Disk--high capacity, random access, magnetic storage medium. They may be non-removable or removable, allowing replacement for text file changes on additional text storage.

STRING - any continuous group of characters including text and/or control codes.

SUB/SUPERSCRIPT PRINTOUT - ability of the printer to print characters a fractional increment above or below the line for footnotes, formulas, etc.

SWITCH CODE - a code permitting switching between media stations of a word processing system, allowing the system to combine such separately stored text as an address list with a repetitive letter.

TELECOMMUNICATIONS - field of technology involving transmission and reception of information over telephone or telegraph communication facilities.

TERMINAL - a device operating remotely from a central computer or word processing system and connected via telecommunications.

TEXT EDITING - revising text; sometimes used to cover all applications or processes that are performed on a word processing text editor.

THROUGHPUT - total of useful information processed or communicated over a given period of time.

TIME-SHARED SERVICES - commercially available access to a computer, allowing user to connect a communicating word processor or terminal to the time-shared service's system; the charge/cost is based on the time and service used.

TURNAROUND TIME - amount of time it takes a correspondence center to process a document from the time the request is entered and the finished document is returned to the principal.

VARIABLE - portions of prerecorded documents that will change from document to document, depending on the recipient of the document.

VENDOR - a company that supplies office equipment, software, or supplies.

VIDEO DISPLAY TERMINAL (VDT) - a CRT or Gas Plasma tube display screen terminal or keyboard console that allows keyed or stored text to be viewed for manipulation or edit.

WIDOW ADJUST - ability of a word processor to automatically prevent the first line of a paragraph from being the last line on a page.

WORD PROCESSING - a system of trained personnel, specific procedures and automated equipment within a proper environment that provides more efficient and economical business communications; usually involves the transformation of information into readable form.

WORD PROCESSING/OFFICE SYSTEMS (WP/OS) - term referring to the total information handling system of an organization, including word processing, administrative support, micrographics, photographics, data processing, communications, etc.

WORD PROCESSING MANAGER - title describing the employee responsible for implementing WP and making sure the system continues to operate smoothly.

WORK STATION - typewriter (keyboard/printer), video terminal (keyboard/CRT), or keyboard-only device. In WP systems, associated with a cluster control unit.

WORK CLUSTER - a form of decentralized WP in which a small grouping of correspondence personnel and administrative personnel supports all the secretarial requirements of a small group of principals.

WORKFLOW - stages a document goes through, includes origination, production, reproduction, distribution, and storage.

WORK MEASUREMENT - A system of determining the amount of work that is being processed by WP employees.

WRAP-AROUND - applies to the process of adjusting margins. Allows words to be moved from one line to the next to accommodate adjustments, insertions, or deletions.

EVALUATION SHEET

This is an attempt to familiarize beginning teachers with word processing applications in the classroom. We realize many areas could be included or expanded.

Since the Guide will be updated yearly, we would appreciate your sending any comments to Susan Owen at the Kansas State Department of Education.

To order additional copies, contact:

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